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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JENS BARRENSCHEEN and WILHARD VON WENDORFF

Appeal 2009-010860
Application 09/883,817
Technology Center 2100

Before JEAN R. HOMERE, JOHN A. JEFFERY, and
ST. JOHN COURTENAY III, *Administrative Patent Judges*.

JEFFERY, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 1-5, 7-28, 30-46, 93, and 94. We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

STATEMENT OF THE CASE

Appellants' invention transmits data between devices connected to a bus such that the units are formed at least partly with a region defining a time slot within which devices that are both concerned and unconcerned

with data transmitted from a first device can output data onto the bus. *See generally* Spec. 2-10. Claim 1 is illustrative with key disputed limitations emphasized:

> 1. A method of transmitting data between devices interconnected via a bus, which comprises:
>
> transmitting, in *units*, data and information, concerning at least one of a transmission of the data and a use of the data, from a first device *to one or more second devices to which the data does not concern, and one or more third devices to which the data does concern*;
>
> *forming the units at least partly with at least one region defining a given time slot within which the second and third devices can output onto the bus specific information and/or data*; and
>
> defining, in the second and third devices enabled for outputting data within the given time slot, settings selected from the group consisting of a setting to determine under which conditions information and/or data are to be output within the given time slot, a setting to determine which information and/or data are to be output within the given time slot, and a setting to determine at which points in time within the given time slot the information and/or data are to be output.

The Examiner relies on the following as evidence of unpatentability:

Levy	US 6,212,633 B1	Apr. 3, 2001
Deng	US 6,347,097 B1	Feb. 12, 2002 (filed Dec. 4, 1998)

THE REJECTIONS

1. The Examiner rejected claims 1-5, 8-28, 31-46, 93, and 94 under 35 U.S.C. § 102(e) as anticipated by Deng. Ans. 4-7.[1]
2. The Examiner rejected claims 7 and 30 under 35 U.S.C. § 103(a) as unpatentable over Deng and Levy. Ans. 7-8.

THE ANTICIPATION REJECTION

Regarding representative claim 1, the Examiner finds that Deng discloses a method of transmitting data between devices interconnected via a bus with every recited feature including the recited unit-based transmission. Ans. 4, 8-12. According to the Examiner, Deng's request and response subactions and the intervening subaction gap form regions in "units" that are said to include the recited transmitted information. *Id.* at 8-12. One of these regions, namely Deng's subaction gap, is said to define a time slot within which devices can output data and information onto the bus as claimed. *Id.*

Appellants disagree with the Examiner's characterization of Deng's subaction gap, for Appellants contend that not only is this gap not a region included in a "unit," it also does not form a time slot within which devices that are unconcerned with data transmitted from a first device can output onto the bus as claimed. App. Br. 9-18; Reply Br. 2-11. The issue before us, then, is as follows:

[1] Throughout this opinion, we refer to (1) the Appeal Brief filed October 22, 2008; (2) the Examiner's Answer mailed March 5, 2009; and (3) the Reply Brief filed May 5, 2009.

ISSUE

Under § 102, has the Examiner erred in rejecting claim 1 by finding that Deng forms units at least partly with at least one region defining a time slot within which devices that are both concerned and unconcerned with data transmitted from a first device can output specific information and/or data onto the bus?

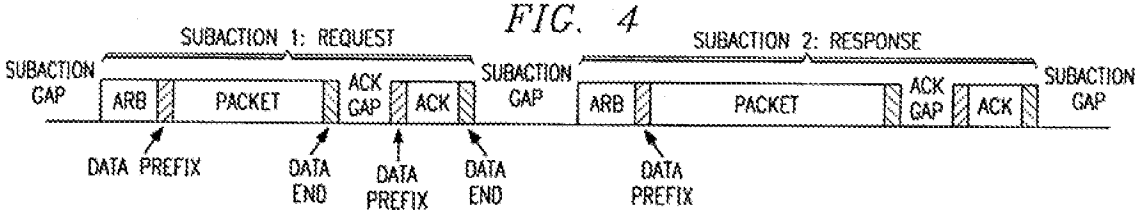
FINDINGS OF FACT (FF)

1. Deng's system buffers received data from a serial bus 22 operating according to the IEEE 1394 standard. Deng's serial bus protocol includes a link layer 52 that provides an acknowledge datagram (one-way data transfer with request confirmation) service to transaction layer 50. The link layer also provides an isochronous data transfer service directly to an application, where one link layer transfer is a "subaction." Deng, col. 1, ll. 10-13; col. 3, l. 42 – col. 4, l. 52; Figs. 1-2.

2. Deng's Figure 4 shows link layer subactions for asynchronously transmitting a packet. These subactions are in the form of a request and a response, and are labeled in Figure 4 as "SUBACTION 1" and "SUBACTION 2," respectively. An arbitration sequence is transmitted by a node that wants to transmit a packet to physical layer 54 to gain control of the bus. The source node then transmits a data packet and corresponding information (e.g., prefix, address information, etc.). Then, a uniquely-addressed destination returns a code indicating to the transmitting node the action taken by the packet receiver. Each of these asynchronous subactions is separated by periods of idle bus called "subaction gaps" that are disposed between packet transmission and acknowledgment reception. Deng, col. 6,

ll. 27-43; Fig. 4. Deng's Figure 4 showing link layer subactions for asynchronously transmitting packets is reproduced below:

FIG. 4



Deng's Figure 4 showing link layer subactions for asynchronously transmitting packets

3. Deng's Figure 4 includes (1) "ack-gaps," and (2) "subaction gaps." The ack-gap is located between a transmitted packet and acknowledgement data (ACK). Subaction gaps, however, are disposed between acknowledgement and arbitration data (i.e., between "ACK" and "ARB"). The ack-gap's maximum length is shorter than a subaction gap to ensure that other nodes on the bus will not begin arbitration before the acknowledgement is received. Deng, col. 6, ll. 43-52; Fig. 4.

4. According to Appellants' Specification:

> [U]nits in which the data to be transmitted is transmitted together with information that is required or useful for the transmission and/or the use of the data and/or further information, are, for example, the frames or messages which are known from already existing bus systems. However, the frames or messages which are used in the method in question here have a structure different from conventional frames or messages.
>
> An example of the structure of a frame or message which is used in the method in question here is illustrated in Fig. 2.

Spec. 15:22–16:5; Fig. 2.

ANALYSIS

Based on the record before us, we find no error in the Examiner's anticipation rejection of representative claim 1 which recites, in pertinent part, forming *units* at least partly with at least one *region* defining a time slot within which devices that are both concerned and unconcerned with transmitted data *can* output specific information and/or data onto the bus. We emphasize the terms "units" and "region" here, for a key question in this appeal is whether the subaction gap separating the request and response subactions in Deng's Figure 4 is a "region" within transmission "units" as claimed.

The Examiner takes the position that the entire structure shown in Deng's Figure 4, namely both the request and response subactions and the intervening "subaction gap," collectively constitute "units" where the two subactions and intervening gap each form a "region" within these "units."[2] *See* FF 2-3. We see no error in this interpretation, for Appellants point to no definition of "units" in the Specification that would limit interpreting the term to particular types of "units" or "regions" within such units. Rather, Appellants' Specification refers to the term "units" somewhat generally and in exemplary terms—a non-limiting description that hardly limits the recited units and their regions to these disclosed embodiments. *See* FF 4 (describing

[2] *See* Ans. 10 ("[T]he bracket [in Deng's Figure 4] delimits a 'request' subaction that is one of the regions, while at least the 'subaction gap' and perhaps the 'response' subaction are other regions of the unit formed."). *Accord id.* (noting that the requesting and responding subactions and the subaction gap "form a complete 'action'"). *See also id.* ("[B]oth the ack-gap and the sub-action [sic] gap are regions that are formed in the recited units.").

exemplary frames or messages constituting conventional data transmission units); *see also id.* (noting the *exemplary* frame or message structure in Figure 2) (emphases added). Despite Deng's separating distinct request and response subactions with a subaction gap in Figure 4 (FF 2-3), nothing in the claims precludes these elements from collectively constituting "units" as claimed. And nothing in the claims precludes these elements from being considered "regions" within those units as the Examiner indicates. Appellants' arguments regarding the format and functionality of the particular unit and its "REPLY" field defining the recited time slot in Figure 2 of the present application (App. Br. 9-11; Reply Br. 9-11) are simply not commensurate with the scope of claim 1.

Nor are we persuaded of error in the Examiner's position (Ans. 9-11) that Deng's subaction gap "region" would define a time slot that is at least capable of allowing devices to output specific information and/or data onto the bus as claimed—including devices that are unconcerned with data transmitted from a first device. In this regard, we note that Appellants' claim 1 does not recite that the second and third devices actually output data onto the bus during this defined time period, but rather this period is defined such that these devices *can* output this data onto the bus. This is a crucial distinction, for the recited time slot need only be *capable* of enabling these devices to output data onto the bus during this time period—not that this data output actually occurs.

In this regard, we see no error in the Examiner's position (Ans. 9-11) that Deng's subaction gap would define a time slot to enable devices that are both concerned and unconcerned with transmitted data to output specific information and/or data onto the bus as claimed. The Examiner's point

regarding arbitration among these devices during the subaction gap (Ans. 10-11) is well taken at least to the extent that this intervening time period would be at least capable of accommodating arbitration among various devices including those that are unconcerned data transmitted from the first device as claimed. *See* FF 2-3.

Notably, Deng distinguishes this subaction gap from acknowledgement gaps ("ack-gaps") which are shorter than subaction gaps to ensure that other nodes on the bus will not begin arbitration before the acknowledgement is received. FF 3. This distinction all but indicates that the longer subaction gap would, at least in part, enable other nodes on the bus to arbitrate for bus control—a finding bolstered by the subaction gap's immediately preceding transmitting arbitration data which, in the case of the second subaction gap in Figure 4, is associated with responding device as the Examiner indicates. Ans. 10-11. *See* FF 2-3. In any event, we are unpersuaded of error in the Examiner's position to the extent that this longer subaction gap would be at least capable of enabling devices that are both concerned and unconcerned with the first device's transmitted data to output specific information and/or data onto the bus as claimed.

We are therefore not persuaded that the Examiner erred in rejecting representative claim 1, and claims 2-5, 8-28, 31-46, 93, and 94 not separately argued with particularity.[3]

[3] Since Appellants reiterate similar arguments regarding independent claims 24, 93, and 94 (App. Br. 18-20), our analysis regarding claim 1 applies to these claims as well.

THE OBVIOUSNESS REJECTION

We also sustain the Examiner's obviousness rejection of claims 7 and 30 over Deng and Levy. Ans. 7-8. Appellants do not particularly point out errors in the Examiner's reasoning to overcome the Examiner's obviousness conclusion, but merely reiterate similar arguments made in connection with claim 1. App. Br. 20-21. We are not persuaded by these arguments, however, for the reasons previously discussed. The rejection is therefore sustained.

CONCLUSION

The Examiner did not err in rejecting (1) claims 1-5, 8-28, 31-46, 93, and 94 under § 102, and (2) claims 7 and 30 under § 103.

ORDER

The Examiner's decision rejecting claims 1-5, 7-28, 30-46, 93, and 94 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

llw